

Work Order ID **94240**

December-03-12 10:12:45 AM

**\*94240\***

**PRELIMINARY ISSUE**

Ship 13 dec. Page 1

Item ID: **D412-698-111**  
Revision ID: **PRELIM**

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Item Name: Cabin Door Roller, LH

Stop **\*NS2\***

Start Date: 03/12/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 17/12/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals: Process Plan: **MLJ**

Date: **12-12-03** Tooling:

Date:

Run Start **\*NR1\***

QC:

Date: SPC (Y/N):

Date:

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                                     | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| <b>Draw Nbr</b>                | <b>Revision Nbr</b>  |                      |         |        |              |               |               |                  |                |
| DSI 9635                       | <b>2A4</b>   |                      |         |        |              |               |               |                  |                |
| 100                            |  |                      |         |        |              |               |               |                  |                |
| <b>*100*</b>                   | DOCUMENT CONTROL   | 0.00                 |         |        |              |               |               |                  |                |
| DC                             | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Document Control               | Photocopy bluefile & type labels per PPP D412-698-111 CHG001 |                      |         |        |              |               |               |                  |                |
| 110                            | Pick Kit   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*110*</b>                   |  |                      |         |        |              |               |               |                  |                |
| Packaging                      | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Packaging                      |  |                      |         |        |              |               |               |                  |                |
| 120                            | QC4- 100% Inspect kits for completeness                      | 0.00                 |         |        |              |               |               |                  |                |
| <b>*120*</b>                   |  |                      |         |        |              |               |               |                  |                |
| QC                             | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |  |                      |         |        |              |               |               |                  |                |

4 **MLJ 12-12-5**

**4**  
DAS  
20  
9-89

4 **12/04/12 JB**

4

**DAS**  
**15**  
**9-89**  
**12-12-18**

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |      |      |     |   |                      |   |                |              |              |  |  |
|--|------|------|-----|---|----------------------|---|----------------|--------------|--------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |      |      |     | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> |                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                |              |              |  |  |
| <b>Root Cause</b>  | Date | Step | Qty | Description of work order update<br>or Non-conformance  | Initial<br>Chief Eng | Action<br>Description   | Sign &<br>Date | Verification | QC Inspector |  |  |
| Doc/Data <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| Equip/Tooling <input type="checkbox"/>                       |      |      |     |   |                      |   |                |              |              |  |  |
| Operator <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| Material <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| Setup <input type="checkbox"/>                               |      |      |     |   |                      |   |                |              |              |  |  |
| Other <input type="checkbox"/>                               |      |      |     |   |                      |   |                |              |              |  |  |
| Process <input type="checkbox"/>                             |      |      |     |   |                      |   |                |              |              |  |  |
| Supplier <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| Training <input type="checkbox"/>                            |      |      |     |   |                      |   |                |              |              |  |  |
| Unapproved <input type="checkbox"/>                          |      |      |     |   |                      |   |                |              |              |  |  |

| FAULT CATEGORY   |  |  |   |  |  |   |  |  |  |  |   |  |
|--|--|--|---|--|--|---|--|--|--|--|---|--|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |  |  | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio |  |  | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |  |  | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |  |

# Work Order ID 94240

December-03-12 10:12:45 AM

**\*94240\***

Page 2

Item ID: D412-698-111

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID: PRELIM 12/12/12

Item Name: Cabin Door Roller, LH

Stop **\*NS2\***

Start Date: 03/12/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 17/12/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description  | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 130                            |   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*130*</b>                   | Packaging   |                      |         |        |              |               |               |                  |                |
| Packaging                      | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Packaging                      | Identify and pack for shipping as per PPP D412-698-111<br>Location: _____ |                      |         |        |              |               |               |                  |                |
| 140                            | QC21- Final Inspection - Work Order Release                               | 0.00                 |         |        |              |               |               |                  |                |
| <b>*140*</b>                   |   |                      |         |        |              |               |               |                  |                |
| QC                             | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |   |                      |         |        |              |               |               |                  |                |

12/12/18

~~POSITIVE RECALL~~

~~EFFECTIVE~~

~~RELEASED~~

AUTH \_\_\_\_\_

DATE \_\_\_\_\_

12.12.18

DWG RELEASED; W/O NOT  
UPDATED  
W/REWORK  
PREPARED.

MF  
12-12-1

DS 9635 REV. A  
ATTACHED

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
|---|-------------|-------------|---|---|--------------------------|---|------------------------|---------------------|--|--|---|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____  |             |             |   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> |                          | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                        |                     |  |  |   |  |
| <b>Root Cause</b>   | <b>Date</b> | <b>Step</b> | <b>Qty</b>  | <b>Description of work order update or Non-conformance</b>  | <b>Initial Chief Eng</b> | <b>Action Description</b>   | <b>Sign &amp; Date</b> | <b>Verification</b> | <b>QC Inspector</b>  |  |   |  |
| Doc/Data <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Equip/Tooling <input type="checkbox"/>  |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Operator <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Material <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Setup <input type="checkbox"/>  |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Other <input type="checkbox"/>  |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Process <input type="checkbox"/>  |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Supplier <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Training <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Unapproved <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| <b>FAULT CATEGORY</b>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |             |             | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio |   |                          | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions   |                        |                     | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |  |

# Picklist Print

December-03-12 10:12:48 AM

Page 1

Work Order ID: 94240

\*94240\*

Parent Item: D412-698-111

\*D412-698-111\*

Parent Item Name: Cabin Door Roller, LH

Start Date: 03/12/2012

Required Date: 17/12/2012

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A 12.11.29 NEW ISSUE DD VERF:JLM

| Component Item ID/<br>Item Name                         | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| <del>D3121-141</del><br>*D3121-141*<br>Bracket Assembly |                        | Manufactured  | No          |                     |                  |                 | Each               | 28.0000        |             |              |               |                |        |

## Location

## Loc Qty

## Loc Code

ST235

8

90064

8

ST235A

20

89235

20

Each

8.0000

\*\*

## Location

## Loc Qty

## Loc Code

ST235A

8

85491

1

89410

4

90222

3

Each

87.0000

\*\*

## Location

## Loc Qty

## Loc Code

ST236

48

78618

2

85467

1

89979

45

ST236A

39

89127

39

24289127

Sms 47

Sms 47

Sms 47

8x90064

4x89235

1x85491

3x89410

1589979

12/04/12

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |   |  |  |  |   |  |
|--|---|--|--|--|---|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </td> <td style="width: 33%;">           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </td> <td style="width: 33%;">           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </td> <td style="width: 33%;">           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </td> </tr> </table> | Skid-tube <input type="checkbox"/><br>Machining <input type="checkbox"/><br>Thermoforming <input type="checkbox"/><br>Large Fab <input type="checkbox"/> | Crosstube <input type="checkbox"/><br>Small Fab <input type="checkbox"/><br>Finishing <input type="checkbox"/><br>Composite <input type="checkbox"/> | Water Jet <input type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/><br>Supplier <input type="checkbox"/> | Engineering <input type="checkbox"/><br>Quality <input type="checkbox"/><br>Other <input type="checkbox"/> |
| Skid-tube <input type="checkbox"/><br>Machining <input type="checkbox"/><br>Thermoforming <input type="checkbox"/><br>Large Fab <input type="checkbox"/> | Crosstube <input type="checkbox"/><br>Small Fab <input type="checkbox"/><br>Finishing <input type="checkbox"/><br>Composite <input type="checkbox"/>                            | Water Jet <input type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/><br>Supplier <input type="checkbox"/>  | Engineering <input type="checkbox"/><br>Quality <input type="checkbox"/><br>Other <input type="checkbox"/>   |  |   |  |

| Root Cause    | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |   |                   |                    |             |              |              |
| Operator      |      |      |     |   |                   |                    |             |              |              |
| Material      |      |      |     |   |                   |                    |             |              |              |
| Setup         |      |      |     |   |                   |                    |             |              |              |
| Other         |      |      |     |   |                   |                    |             |              |              |
| Process       |      |      |     |   |                   |                    |             |              |              |
| Supplier      |      |      |     |   |                   |                    |             |              |              |
| Training      |      |      |     |   |                   |                    |             |              |              |
| Unapproved    |      |      |     |   |                   |                    |             |              |              |

### FAULT CATEGORY

|   |   |   |   |
|---|---|---|---|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |
|---|---|---|---|

# Picklist Print

December-03-12 10:12:48 AM

Page 2

Work Order ID: 94240

Parent Item: D412-698-111

Parent Item Name: Cabin Door Roller, LH

\*94240\*

\*D412-698-111\*

Start Date: 03/12/2012

Required Date: 17/12/2012

Start Qty: 4.00

Required Qty: 4.00

~~D3202-1~~

Manufactured No

Each 17.0000

\*~~D3202-1~~\*

Cover

\*\*

JB

~~SP~~

Location

Loc Qty

Loc Code

ST241A

17

70294

2

89378

15

Each

0.0000

D4737-041

Manufactured No

\*~~D4737-041~~\*

Bracket Assembly

D4737-043

Manufactured No

\*~~D4737-043~~\*

Bracket Assembly

Each

0.0000

\*\*

94241 JB 12/12/18

\*\*

B94242-8  
8/12/12-17

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
|---|-------------|-------------|---|---|--------------------------|---|------------------------|---------------------|--|--|---|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____  |             |             |   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> |                          | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                        |                     |  |  |   |  |
| <b>Root Cause</b>   | <b>Date</b> | <b>Step</b> | <b>Qty</b>  | <b>Description of work order update or Non-conformance</b>  | <b>Initial Chief Eng</b> | <b>Action Description</b>   | <b>Sign &amp; Date</b> | <b>Verification</b> | <b>QC Inspector</b>  |  |   |  |
| Doc/Data <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Equip/Tooling <input type="checkbox"/>  |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Operator <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Material <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Setup <input type="checkbox"/>  |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Other <input type="checkbox"/>  |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Process <input type="checkbox"/>  |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Supplier <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Training <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| Unapproved <input type="checkbox"/>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| <b>FAULT CATEGORY</b>   |             |             |   |   |                          |   |                        |                     |  |  |   |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |             |             | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio |   |                          | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions   |                        |                     | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |  |



# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D412-698 REV. E & INSTRUCTIONS FOR  
CONTINUED AIRWORTHINESS ICA-D412-698 REV. 5

REF. TCCA STC SH92-43

REF. FAA STC SR01446NY

REF. EASA STC EASA.IM.R.S.00709

## 1.0 PURPOSE

The purpose of this service instruction is to add the D412-698-111/-112 Cabin Door Roller kits for installation on aircraft equipped with cargo door assembly P/N's 205-031-669-15 (LH) and 205-031-669-16 (RH). Customers who have purchased the D412-698-011/-012 kits can upgrade to D412-698-111/-112 using the DSI 9635-011/-012 kits as follows:

- DSI 9635-011 Roller Bracket Change Kit, LH: converts a D412-698-011 to a D412-698-111;
- DSI 9635-012 Roller Bracket Change Kit, RH: converts a D412-698-012 to a D412-698-112.

## 2.0 PARTS LISTS

| Qty<br>-011 | Qty<br>-012 | Part Number  | Description  |
|-------------|-------------|--------------|--|
| X           |             | DSI 9635-011 | ROLLER BRACKET CHANGE KIT, LH<br>(TO CONVERT A D412-698-011 KIT) |
|             | X           | DSI 9635-012 | ROLLER BRACKET CHANGE KIT, RH<br>(TO CONVERT A D412-698-012 KIT) |
| 1 ✓         | 1           | D4737-041    | BRACKET ASSEMBLY   |
| 1 ✓         |             | D4737-043    | BRACKET ASSEMBLY   |
|             | 1           | D4737-044    | BRACKET ASSEMBLY   |

| Qty<br>-111 | Qty<br>-112 | Part Number  | Description               |
|-------------|-------------|--------------|---------------------------|
| X           |             | D412-698-111 | CABIN DOOR ROLLER KIT, LH |
|             | X           | D412-698-112 | CABIN DOOR ROLLER KIT, RH |
| 3 ✓         | 3           | D3121-141    | BRACKET ASSEMBLY          |
| 1 ✓         |             | D3121-143    | BRACKET ASSEMBLY          |
|             | 1           | D3121-144    | BRACKET ASSEMBLY          |
| 9 ✓         | 9           | D3199-1      | BRACKET                   |
| 1 ✓         | 1           | D3202-1      | COVER                     |
| 1 ✓         | 1           | D4737-041    | BRACKET ASSEMBLY          |
| 1 ✓         |             | D4737-043    | BRACKET ASSEMBLY          |
|             | 1           | D4737-044    | BRACKET ASSEMBLY          |

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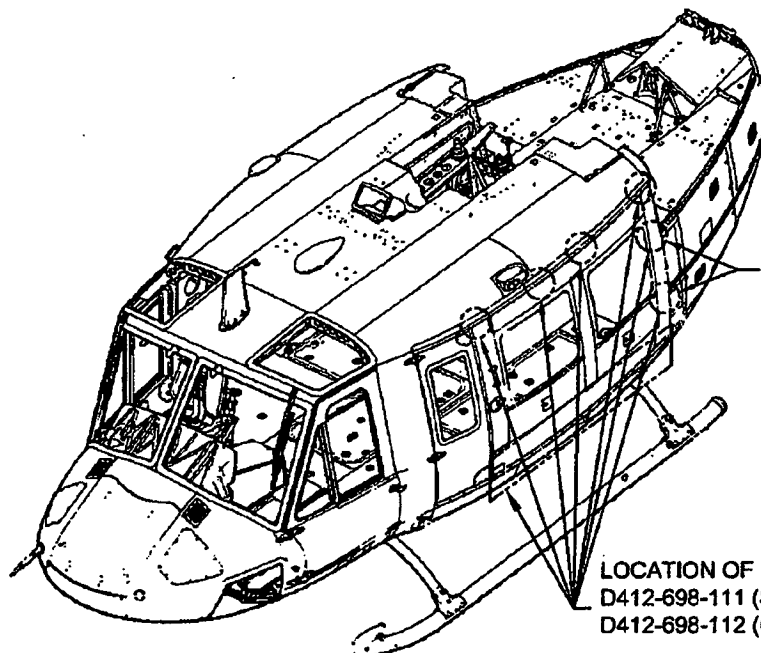
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| A  | NEW ISSUE   | MB   | 12.11.21 |
| REV.   | DESCRIPTION | BY   | DATE     |
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| MFG. APPR.   |             | N/A  |          |
| APPROVED   |             |  |          |
| DE APPR.   |             | DRAWING NO. <u>DSI 9635</u> REV. A<br>SHEET 1 OF 5       |          |
| DATE   | 12.11.21    | TITLE <u>ROLLER BRACKET CHANGE KIT</u> SCALE: NTS        |          |
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LOCATION OF  
DSI 9635-011 (SHOWN)  
DSI 9635-012 (OPPOSITE)

LOCATION OF  
D412-698-111 (SHOWN)  
D412-698-112 (OPPOSITE)

**FIGURE 1 – INSTALLATION OVERVIEW**

### 3.0 INSTALLATION

- 3.1 Remove LH and/or RH sliding doors (ref P/N 205-031-669-15/-16) from the aircraft per the Aircraft Maintenance Manual.
  - 3.2 Remove 205-031-436-001 and replace with D3121-141 Bracket (3 places). Reuse existing hardware and shims if determined to be airworthy. Alternatively, if using D412-698-021 Replacement Shim Kit, install D3238-1 & D3238-11 as required. Note that the D3121-141 brackets contain one additional middle slot not used for this installation (see Figure 6 of IIN-D412-698 or Figure 52-8 of ICA-D412-698).
  - 3.3 Remove 205-031-435-001/002 and replace with D3121-143 Bracket for left hand doors and D3121-144 Bracket for right hand doors. Reuse existing mounting hardware and shims if determined to be airworthy. Alternatively, if using D412-698-021 Replacement Shim Kit, install D3238-3 & D3238-13 as required. Note that the D3121-143/-144 brackets contain one additional middle slot not used for this installation (see Figure 6 of IIN-D412-698 or Figure 52-8 of ICA-D412-698).
  - 3.4 Remove 205-031-433-1 Roller Support (LH) and 205-031-433-2 Roller Support (RH) and replace with D4737-043 on left hand doors and D4737-044 on right hand doors. Reuse existing mounting hardware and shims if determined to be airworthy. Alternatively, if using D412-698-021 Replacement Shim Kit, install D3238-5 & D3238-15 as required.
- NOTE:** The upper aft door track on early model aircraft may not have been modified to accept the extra roller on the D4737-043/-044 Brackets. If this track has not been modified, it should be modified in accordance with BHT TB 205-99-105 at this time.

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| MFG. APPR. | N/A                | DSI 9635  | SHEET 2 OF 5 |
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3.5 Remove 205-031-434-1 Roller Support and replace with D4737-041. Reuse existing mounting hardware and shims if determined to be airworthy. Alternatively, if using D412-698-021 Replacement Shim Kit, install D3238-5 & D3238-15 as required.

3.6 Remove 205-032-669-125 Track (LH) and/or 205-032-669-126 Track (RH) as applicable. Install D3199-1 Brackets and D3202-1 Cover as shown in Figure 2a using existing mounting hardware if determined to be airworthy.

3.7 Re-install LH and/or RH doors on the aircraft per the Aircraft Maintenance Manual. Check sliding operation of door. Adjust position/shimming of all new brackets until door operation is smooth and free of dragging/binding through full travel of the door. Once the door is sliding smoothly, torque all fasteners per Aircraft Maintenance Manual.

**NOTE:** To prevent roller wear and premature door track wear, ensure vertical rollers are sitting flush to door tracks.

3.8 **NOTE:** It is acceptable to install any portion of the D412-698-111/-112 kits in combination with the existing Bell door components. Replacement parts may be ordered individually as follows:

| Bell Part Number | Location                               | Dart Replacement Part Number | Applicable Instruction |
|------------------|--|------------------------------|------------------------|
| 205-031-436-001  | STA 162 in<br>STA 140 in<br>STA 116 in | D3121-141                    | 3.2                    |
| 205-031-435-001  | STA 96 in                              | D3121-143                    | 3.3                    |
| 205-031-435-002  | STA 96 in                              | D3121-144                    | 3.3                    |
| 205-031-433-1    | STA 168 in                             | D4737-043                    | 3.4                    |
| 205-031-433-2    | STA 168 in                             | D4737-044                    | 3.4                    |
| 205-031-434-1    | STA 168 in                             | D4737-041                    | 3.5                    |

#### 4.0 WEIGHT AND BALANCE

| INSTALLATION                               | WEIGHT             | LATERAL                 |                              | LONGITUDINAL     |                          |
|--|--------------------|-------------------------|------------------------------|------------------|--------------------------|
|  |                    | Arm                     | Moment                       | Arm              | Moment                   |
| D412-698-111 Cabin Door                    | 0.82 lb            | -48.0 in                | -39.4 in lb                  | 130 in           | 106.6 in lb              |
| Roller Kits (net)                          | 0.37 kg            | -1.22 m                 | -0.45 m kg                   | 3.30 m           | 1.22 m kg                |
| D412-698-112 Cabin Door                    | 0.82 lb            | 48.0 in                 | 39.4 in lb                   | 130 in           | 106.6 in lb              |
| Roller Kits (net)                          | 0.37 kg            | 1.22 m                  | 0.45 m kg                    | 3.30 m           | 1.22 m kg                |
| Both D412-698-111/-112 Installed (net)     | 1.64 lb<br>0.74 kg | 0 in<br>0 m             | 0 in lb<br>0 m kg            | 130 in<br>3.30 m | 213.2 in lb<br>2.44 m kg |
| Replace 205-031-433-1 with D4737-043 (net) | 0.19 lb<br>0.09 kg | -48.0 in<br>-1.22 m     | -9.1 in lb<br>-0.11 m kg     | 168 in<br>4.27 m | 31.9 in lb<br>0.38 m kg  |
| Replace 205-031-433-2 with D4737-044 (net) | 0.19 lb<br>0.09 kg | 48.0 in<br>1.22 m       | 9.1 in lb<br>0.11 m kg       | 168 in<br>4.27 m | 31.9 in lb<br>0.38 m kg  |
| Replace 205-031-434-1 with D4737-041 (net) | 0.12 lb<br>0.05 kg | +/-48.0 in<br>+/-1.22 m | +/-5.8 in lb<br>+/-0.06 m kg | 168 in<br>4.27 m | 20.2 in lb<br>0.21 m kg  |

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APPROVED  
BY: D. Shepherd  
D. SHEPHERD (DE # 02)

DATE: 12.11.26  
CERT. NO.: SH92-43  
ISSUE NO.: 5

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| MFG. APPR.   | N/A      | DSI 9635                               | SHEET 3 OF 5 |
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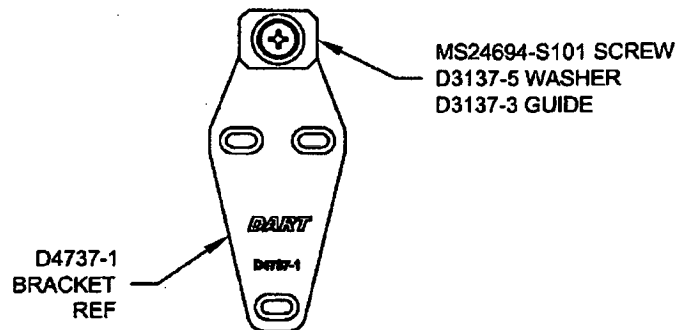
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## 5.0 MAINTENANCE

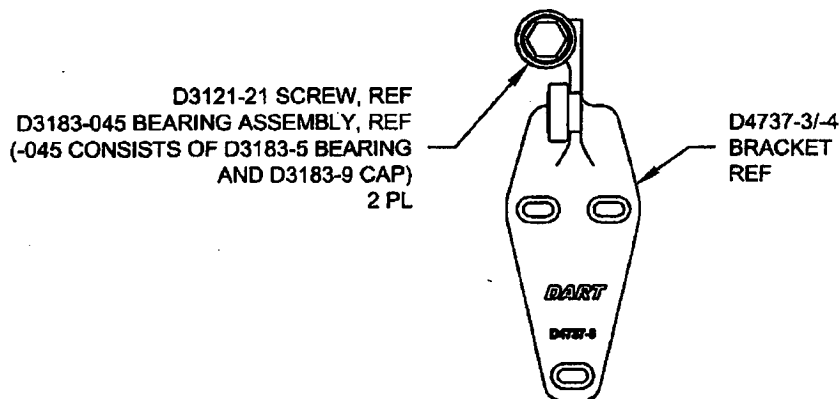
Maintain D412-698-111/-112 in accordance with ICA-D412-698 for the D412-698-011/-012 Kits.

## 6.0 D4737-041/-043/-044 REPLACEMENT PARTS

For D3121-141/-143/-144 Bracket Assemblies, see Section 5.0 of IIN-D412-698 (Section 52.14 of ICA-D412-698).



**D4737-041 BRACKET ASSEMBLY**



**D4737-043/-044 BRACKET ASSEMBLY**

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D. SHEPHERD (DE # 02)

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